Center Independent Research & Development: JPL IRAD

CMOS SoC Waveform Generators for mm-wave Radars and Active Spectrometers (CMOS Wavegen)

Completed Technology Project (2015 - 2016)

Project Introduction

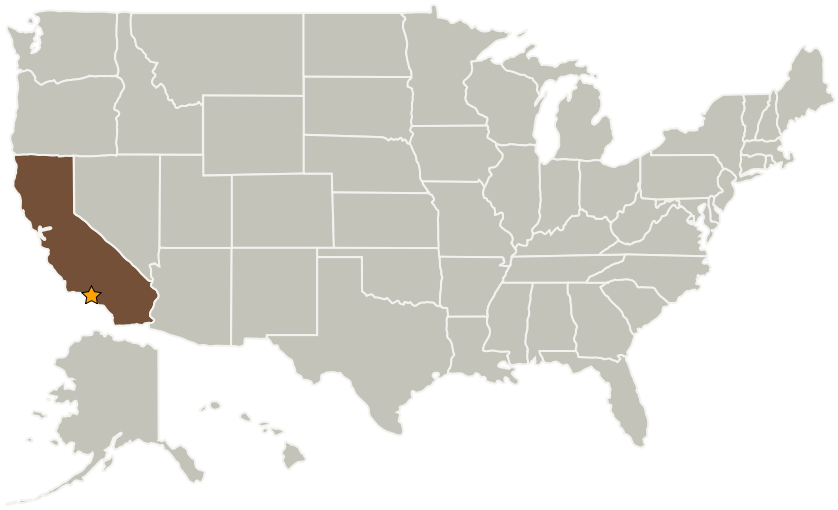
This is a CMOS chip that generates wideband waveforms for future radar and spectrometer system.

The waveform generator leverages CMOS technology to reduce size weight and power over conventional radar waveform generators.

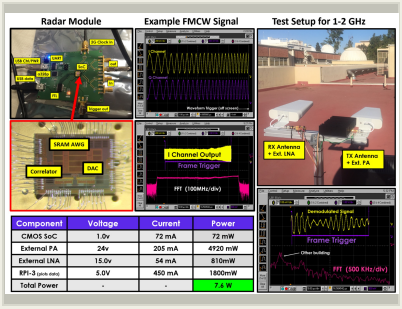
Anticipated Benefits

N/A

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
University of Southern California(USC)	Supporting Organization	Academia	Los Angeles, California



Demonstration of the developed CMOS waveform generator system-on-chip inside a JPL radar system.

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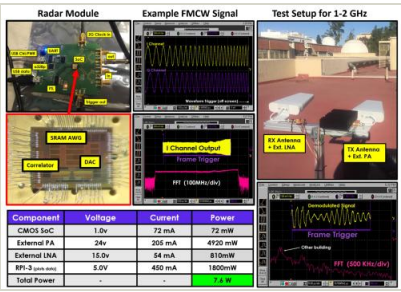
Primary U.S. Work Locations

California

Images



Radar waveform generator demonstration
Demonstration of the developed CMOS waveform generator system-on-chip inside a JPL radar system. *(https://techport.nasa.gov/image/26132)*

Organizational Responsibility

Responsible Mission Directorate:
Mission Support Directorate (MSD)

Lead Center / Facility:
Jet Propulsion Laboratory (JPL)

Responsible Program:
Center Independent Research & Development: JPL IRAD

Project Management

Program Manager:
Fred Y Hadaegh

Project Manager:
Fred Y Hadaegh

Principal Investigator:
Adrian J Tang

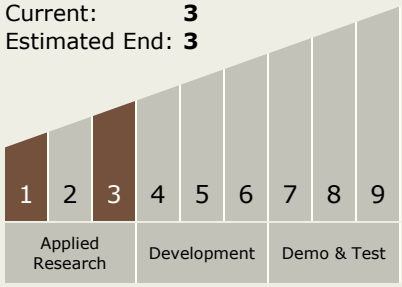
Co-Investigator:
Mau-chung Frank Chang

CMOS SoC Waveform Generators for mm-wave Radars and Active Spectrometers (CMOS Wavegen)

Completed Technology Project (2015 - 2016)

Technology Maturity (TRL)

Start: **1**
Current: **3**
Estimated End: **3**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves